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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 941,853	08 29 2001	Robert L. Canella	4322US (MUEI-0542.00 US)	7507

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EXAMINER

GREENE, PERSHELLE L

ART UNIT PAPER NUMBER

2826

DATE MAILED: 06 04 2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/941,853

Applicant(s)

CANELLA, ROBERT L.

Examiner

Pershelle Greene

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 29 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1, 3, 5, 7-18, 20-26, 44-55, 66 and 67 is/are pending in the application.
- 4a) Of the above claim(s) 7, 9, 20, 21 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) 66 and 67 is/are allowed.
- 6) ☐ Claim(s) 1, 3, 5, 8, 10-13, 15-18, 22, 24, 26 and 44-55 is/are rejected.
- 7) ☐ Claim(s) 14 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 6/14/2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other |

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Serial Number: 09-941853

Attorney's Docket #: 4322US (MUEI-0542.00-US)

Filing Date: 8/29/2001

Applicant: Canella, Robert L.

Examiner: Pershelle Greene

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the aperture of a frustoconical configuration decreasing in size towards the sheet of resilient conductive material must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

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3. Claims 46, 49, 52, and 55 are being rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear and confusing how the aperture has a frustoconical configuration decreasing in size towards the sheet of resilient conductive material. Where is this shown?

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 5, 8, 10-13 and 44-52 are being rejected under 35 U.S.C. 103(a) as being unpatentable over Grabbe (U.S. Patent # 5,173,055), in view of Schueller et al. (U.S. Patent # 5,602,422).

As to claims 1, 3, and 5, Grabbe discloses a substrate 40 with spring-biased electrical contacts 18 including a surface configured for biasing against and electrically contacting a lead element of an IC device. There is a plurality of vias 46 disposed in the substrate. Each via opens onto a surface of the substrate and comprises a recess onto which a spring-biased electrical contact may be deflected. Grabbe fails to explicitly show a layer of resilient conductive material defining a plurality of electrically isolated conductive traces and a plurality of electrically isolated spring-biased contacts.

Schueller et al. is cited for showing flexible leads for tape ball grid array circuit. Specifically, Schueller et al. shows, referring to figure 4, a layer of resilient conductive material defining a plurality of electrically isolated conductive traces 16 and a plurality of electrically isolated spring-biased contacts 30. It would have been obvious to one of ordinary skill in the art to use the a layer of resilient conductive material defining a plurality of electrically isolated conductive traces and a plurality of electrically isolated spring-biased contacts with the device of Grabbe for the purpose of increased flexibility. The contact would be able to deflected into the via recess.

As to claims 8, 10, 11, and 13, Grabbe shows, in figure 9, a cantilevered spring 18 having a permanent deflection. The resilient conductive material comprises a laminate bonded to one of the surfaces of the substrate. The spring-biased electrical contact includes at least one contact element disposed on the surface of the substrate which is configured to remove or puncture through a layer of contaminants.

Claim 12 is **product-by-process claim**.

As to claims 44-52, Grabbe shows, referring to figure 9, a dielectric layer of sufficient thickness overlying the layer of resilient conductive material and having apertures aligned with the electrically isolated spring-biased electrical contacts. The apertures are of a frustoconical configuration decreasing in size towards the layer of resilient conductive material.

3. Claims 15-18, 22-24, 26, and 53-55 are being rejected under 35 U.S.C. 103(a) as being unpatentable over Grabbe (U.S. Patent # 5,173,055), in view of Schueller et al. (U.S. Patent # 5,602,422), and further in view of McMillan et al. (U.S. Patent # 5,829,988).

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As to claims 15 and 26, Grabbe discloses a substrate 40 with spring-biased electrical contacts 18 including a surface configured for biasing against and electrically contacting a lead element of an IC device. There is a plurality of vias 46 disposed in the substrate. Each via opens onto a surface of the substrate and comprises a recess onto which a spring-biased electrical contact may be deflected. Grabbe fails to explicitly show a layer of resilient conductive material defining a plurality of electrically isolated conductive traces and a plurality of electrically isolated spring-biased contacts and an integrated circuit device disposed on the first surface of the substrate.

Schueller et al. is cited for showing flexible leads for tape ball grid array circuit. Specifically, Schueller et al. shows, referring to figure 4, a layer of resilient conductive material defining a plurality of electrically isolated conductive traces 16 and a plurality of electrically isolated spring-biased contacts 30 downwardly deflecting. It would have been obvious to one of ordinary skill in the art to use the a layer of resilient conductive material defining a plurality of electrically isolated conductive traces and a plurality of electrically isolated spring-biased contacts with the device of Grabbe for the purpose of increased flexibility. The contact would be able to deflected into the via recess.

McMillan et al. is cited for showing a socket assembly for integrated circuit chip carrier package. Specifically McMillan shows, referring to figure 3A, an integrated circuit device disposed on a first surface of a substrate.

As to claim 16, McMillan shows, in figure 3A, a clamping device 16.

It would have been obvious to one of ordinary skill in the art to use the integrated circuit of McMillan with the device of Grabbe for the purpose of performance enhancement. The clamping feature aids in holding the components together more tightly.

As to claims 17-18, 22 and 24, Grabbe shows, referring to figure 9, a cantilevered spring-biased electrical contact configured to remove or puncture through a layer of contaminants formed on a surface of a mating lead that includes a permanent deflection away from the surface of the substrate. There is a plurality of vias disposed in the substrate. Each of the vias is positioned at a location underlying the spring biased electrical contact.

As to claims 53-55, Grabbe shows, referring to figure 9, a dielectric layer of sufficient thickness overlying the layer of resilient conductive material and having apertures aligned with the electrically isolated spring-biased electrical contacts. The apertures are of a frustoconical configuration decreasing in size towards the layer of resilient conductive material.

Claim Objections

4. Claims 14 and 25 are being objected to as being dependent upon a rejected base claim.

Allowable Subject Matter

5. Claims 66 and 67 are allowed.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pershelle Greene whose telephone number is 703-305-3870. The examiner can normally be reached on M-F 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on 703-308-6601. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

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PLG

May 30, 2003